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21. (Amended) A broad band ultraviolet achromatic catadioptric inspection system, comprising a broad band ultraviolet objective configured to image a first object at a first ultraviolet wavelength and to image a second object at a second ultraviolet wavelength different than the first ultraviolet wavelength, wherein the objective comprises a first lens and a second lens having different dispersions, and wherein the system is configured to detect defects on the first or second object using the image of the first or second object, respectively.

29. (Amended) The system of claim 21, wherein a field size of the objective is about 0.5 mm diameter.

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30. (Amended) The system of claim 21, wherein the objective has a significantly flattened field.

31. (Amended) The system of claim 21, wherein the objective corrects primary and residual longitudinal and lateral color over a wavelength band of at least 20 nm.

32. (Amended) The system of claim 21, wherein the objective further comprises a focusing lens group configured to focus ultraviolet light at an intermediate image, a field lens group disposed proximate the intermediate image, wherein the field lens group comprises the first lens and the second lens, and a catadioptric relay group configured to form a final image of the intermediate image.

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34. (Amended) The system of claim 21, wherein the objective [lens] is further configured to image the first and second objects with light scattered by the first and second objects, respectively.

36. (Amended) The system of claim 21, wherein the system is further configured to classify defects and features on the first or second object using the image of the first or second object, respectively.

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37. (Amended) A broad band ultraviolet achromatic catadioptric inspection system, comprising:

a broadband ultraviolet light source configured to illuminate a first object with a first ultraviolet wavelength and to illuminate a second object with a second ultraviolet wavelength different than the first ultraviolet wavelength; and

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a broad band ultraviolet objective configured to image the first object at the first ultraviolet wavelength and to image the second object at the second ultraviolet wavelength, wherein the objective comprises a first lens and a second lens having different dispersions, and wherein the system is configured to detect defects on the first or second object using the image of the first or second object, respectively.

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39. (Amended) The system of claim 37, wherein the objective [lens] is further configured to image the first and second objects with light scattered by the first and second objects, respectively.

Please add the following claims:

46. (Added) A broad band ultraviolet achromatic catadioptric inspection system, comprising a broad band ultraviolet objective configured to correct primary and residual longitudinal and lateral color over an ultraviolet wavelength band greater than approximately 10 nm.

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47. (Added) The system of claim 46, wherein the objective is configured to correct primary and residual longitudinal and lateral color over an ultraviolet wavelength band greater than approximately 90 nm.

48. (Added) The system of claim 46, wherein the objective is configured to correct primary and residual longitudinal and lateral color over an ultraviolet wavelength band between approximately 0.193 nm and approximately 0.400 nm.

49. (Added) The system of claim 46, wherein the objective comprises a field lens group with two or more different refractive materials.

50. (Added) The system of claim 49, wherein the objective is substantially absent of cementing material at an interface between the two or more different refractive materials.

51. (Added) The system of claim 46, wherein the objective comprises a focusing lens group comprising a first set of lenses and a second set of lenses, wherein the first set of lenses is spaced from the second set of lenses by at least one-half of a total thickness of the second set of lenses.
